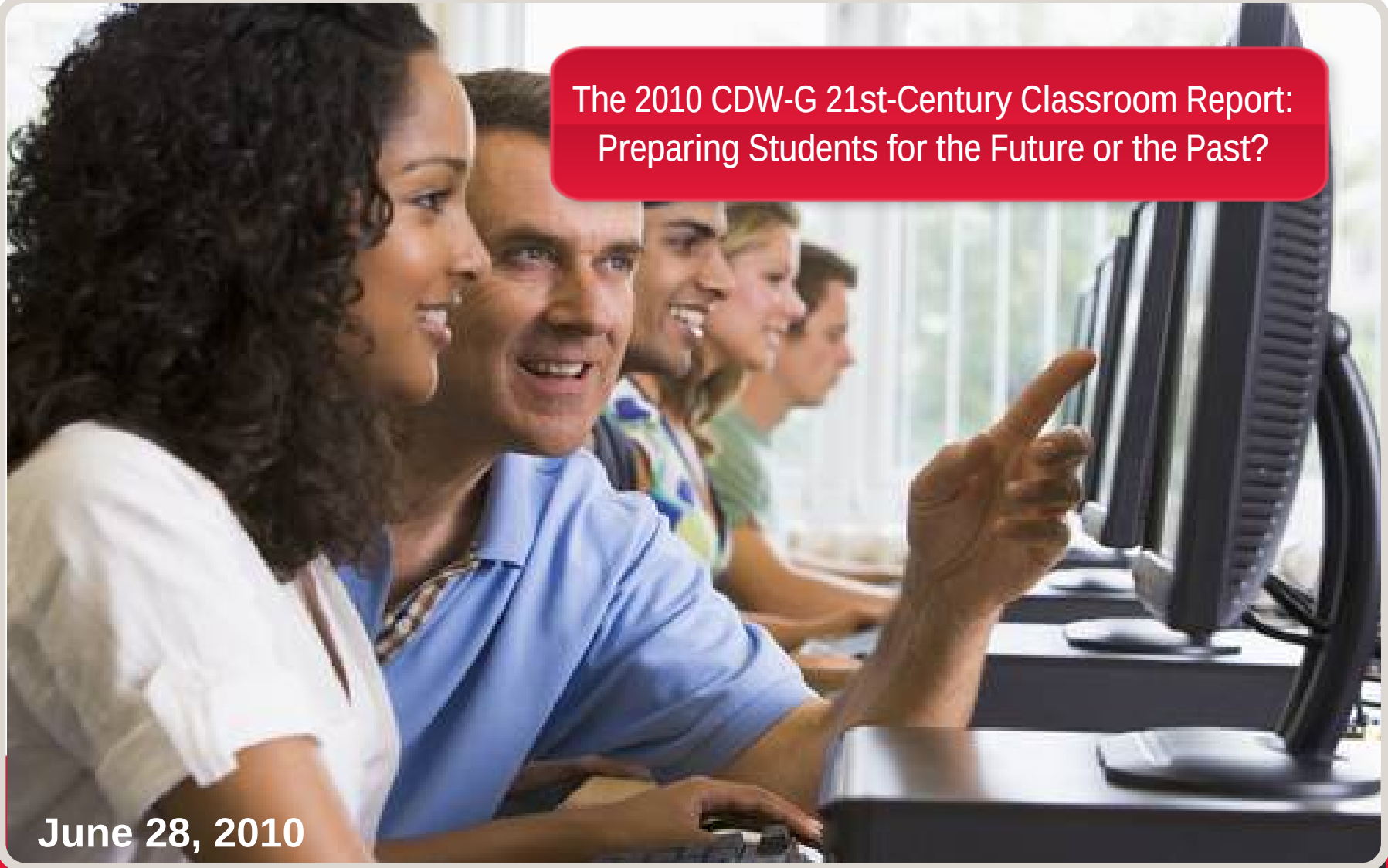
The 2010 CDW-G 21st-Century Classroom Report: Preparing Students for the Future or the Past?



June 28, 2010

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Study Focus and Objectives

The 21st-century classroom leverages technology to engage and empower teachers and students.

To understand how close we are to that goal, CDW-G surveyed 1,000 high school students, high school faculty and district IT professionals from around the country – representing rural, suburban and urban schools of all sizes – about how technology is used in their schools.

CDW-G's 21st-Century Classroom Report offers educational leaders an opportunity to hear directly from their students, faculty and IT professionals on how to create and sustain an educational experience that prepares students to succeed in today's classroom and on tomorrow's college campus.

Key Findings

- High school students say technology is vital to their education and their future, but schools are not meeting their needs
  - 84% say technology is important or very important to their ability to study/work on class assignments
  - 43% say their high school is not – or they are unsure if their high school is – preparing them to use technology in the workforce and/or college

- Faculty are using technology to teach; but many students lack opportunities to use technology in class
  - 60% of students say faculty regularly use technology to teach; but just 26% of students say they are encouraged to use technology throughout the day
  - 47% of faculty say they are not designing lesson plans so students can use technology in class

- To improve, districts should focus on 21st-century skills and bringing technology to class
  - Today, just 36% of faculty say they regularly discuss 21st-century skills with students and incorporate student feedback into lesson plans
  - Today, half of faculty (53%) say they do not* hold any of their classes in a 21st-century classroom
  - IT pros are watching trends like digital content, Web 3.0 and virtual learning, but only 10% expect increased technology budgets next school year

*Do not or do not know if they hold any classes in a 21st-century classroom

Ed Tech Reality Check

Technology Matters to Students

- High school students say technology is vital to their education now and in the future

84%

say technology is important* to their ability to study/ work on class assignments in high school

and

94%

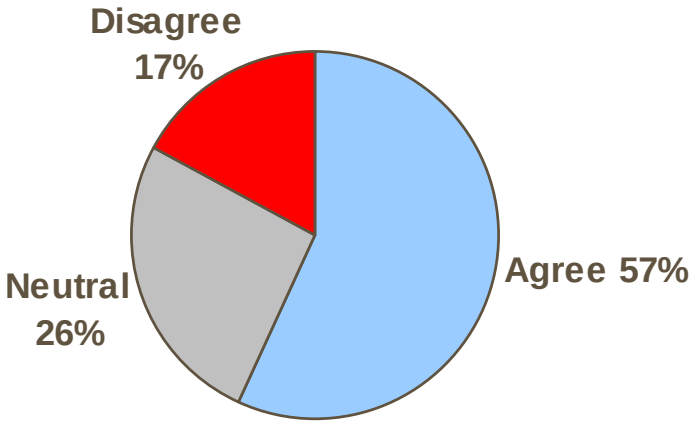
anticipate using technology to complete assignments in college

*Important or very important

Half of Students Are Prepared for the Future

- Just over half of students feel they will be ready to use technology in college and/or the workforce

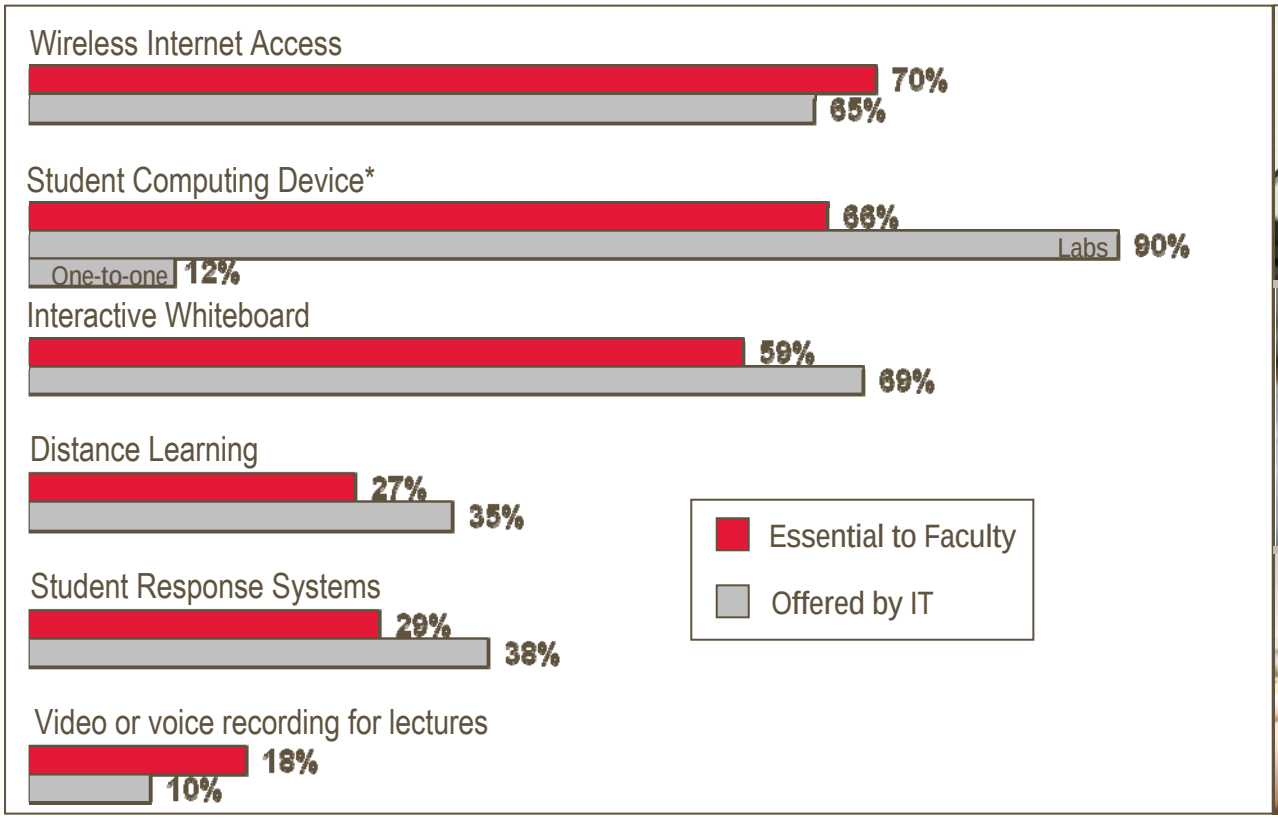
My high school is preparing me to successfully use technology in college and/or the workforce:



"A technology-rich classroom would affect me positively and teach me the technological skills necessary for college. It would also make the class more productive and enable me to learn more."
– High school student

Technology is Available and Supported

- Faculty have a clear vision of 21st-century classroom technology – and in most cases, IT meets and exceeds that vision



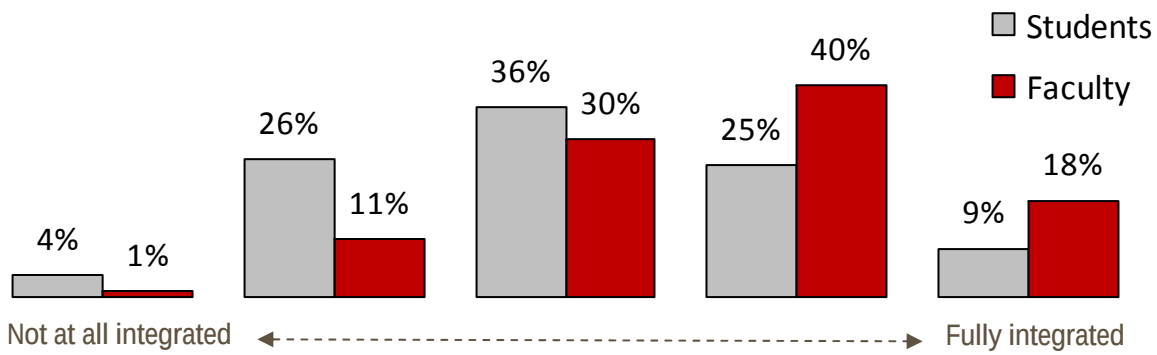
Teachers: What technologies are essential to a 21st-century classroom? IT: Which of the following does your district offer to high school students *Laptops/netbooks/smartphones

Integration is Incomplete

- While the technology is available, IT pros, faculty and students disagree on the level of classroom technology integration
  - Additionally, one-half (53%) of faculty say they do not* hold any of their classes in a 21st-century classroom

To what extent is technology integrated into your classes?

Please rate on a scale of one to five, where one is not at all integrated and five is fully integrated.



67% of IT pros say their district understands how students want to use technology as a learning tool; 47% of students agree

*Do not or do not know if they hold any classes in a 21st-century classroom

Students Want Hands-On Experience

- Technology is used more as a teaching tool than a hands-on learning tool

60%

of students say faculty members regularly use technology to teach

but just

26%

of students say they are encouraged to use technology throughout the day

Example: 69% of IT pros say they offer interactive whiteboards; just 38% of students report they are able to use them.

"The use of technology in schools is behind current technology use in everyday life."
– District IT professional

Faculty Members Are Not Providing Tech-rich Assignments

- High school faculty members are missing the opportunity to use technology to help students develop 21st-century skills

21st-century skills include creativity, innovation, critical thinking, problem solving, research and information fluency, digital citizenship and communication/ collaboration.*

But:

71%	either are not getting, or are getting and not incorporating, guidance from the department and/or district on providing tech-rich assignments for students
64%	are not regularly discussing 21st-century skills with students and incorporating their feedback into lesson plans
47%	are not designing lesson plans so students use technology during class

*From the International Society for Technology in Education (ISTE) NETS for Students 2007

Recommendations

Narrow the Personal/School Use Gap

- Almost all students (96%) report they use technology at home to complete class assignments; however, they use different technology in their personal lives, as do their teachers
- Students lead their teachers in using next-generation technology for educational use – 76% of students report using social media* as an educational tool

	Students		Faculty	
	Personal Use	Educational Use	Personal Use	Classroom Use
iPods/MP3 players	78%	29%	62%	13%
Smartphone	38%	18%	30%	6%
Online text/video chat	58%	18%	43%	12%
Blogs	30%	16%	26%	12%
Digital Content	26%	33%	35%	42%
Podcasts	23%	6%	21%	12%

*Social media tools include Facebook, Twitter, blogs or wikis

Teach to Students' Future

- With a 21st-century infrastructure, faculty can increase the use of digital content and educational technologies such as open source applications and interactive whiteboards

Faculty: What newer technologies are you using to teach? *Please select all that apply.*

42%	Online textbooks, downloadable books or other curricular materials in electronic form
36%	Interactive whiteboards
26%	Open source applications (e.g., Google Apps, OpenOffice)
22%	Course management systems (e.g., Blackboard, Jenzabar, Moodle, Web CT)

IT Pros: What K-12 technology trends are you watching?

"Interactive whiteboards, student response systems, wireless Internet connection, faster network connections, etc."

"Cell phone usage in the classroom, wireless technologies, Web 3.0, Web 2.0, virtualization and thin clients."

"E-books, Web assignments and assets, iPads and iPods, videocasting through the Web for classes and distance learning for high school students."

Students: What is the one tech tool that you believe would be most useful in your education?

#1: Computing device* #2: e-Reader #3: Digital content

*Includes laptops, tablets, netbooks, notebooks, desktops and smartphones

Watch Out for a Widening Gap

- The technology gap may only widen, as just half of schools plan to upgrade or improve classroom technology in the next two years

Current status of high school technology*:

8%	Cutting edge with new/innovative technology
33%	Current, no more than three years old
39%	Adequate, but could be refreshed
17%	Aging
3%	In the dark ages

51%

of district IT professionals report they plan to upgrade or improve classroom technology in the next two years

10%

of district IT professionals report their IT budgets will increase in the upcoming school year

"I can't give my teachers any recommendations [on technology to use], because none of them can afford better technology in the classroom." – High school student

*According to district IT pros

Look to the Future

- How would having a technology-rich classroom change the way that you –

Teach?

"It would help me to have better access to video/audio recording capabilities, to enhance and bring depth to lessons for students with differing learning styles."

"Technology would broaden the types of lessons I could present and allow students access to more materials and classroom aids that I can't provide in a technology-poor classroom."

"Students could create public products of their knowledge and learning and find resources from other students."

Learn?

"It would provide us with a greater ability to access and circulate all class-related information and would clear up a lot of assignment confusion. Not to mention that I simply find using technology easier than handwritten spreadsheets or notebooks."

"It would teach me how to search for information more efficiently. It would enable better visuals and graphics to understand the material."

"Certainly it would open opportunities for outside input and research, while speeding and improving the quality of work."

Listen to Students

- Currently, one in three students say their high schools seek student input on classroom technology (e.g., technology trends, curriculum integration, etc.)

"Our teachers use surveys and class time to ask our opinions about computers. At the beginning of the year they pass out a survey that asks us about our availability and aptness to use computers." – High school student

"Go to the training programs our school provides and practice using the technology so we don't run into technical difficulties during class."

"Use the interactive whiteboards to their full capacity."

"Don't do a lecture around the technology; do one with the technology as an addition."

"Encourage students to use technology and to give homework that involves using technology."

"Put together and manage your own Web site where we could communicate and use other study tools."

"Have notes, worksheets, textbooks and other reference materials in digital form, and have online assignments for absent students who cannot get the work in class."

Call to Action

- Survey students to understand their technology expectations:
  - Consider using the 21st-Century Classroom survey tool, www.cdwg.com/21stCenturyClassroomReport, or your own survey to get an accurate picture of what students and teachers want and need

    "We use Moodle, interactive whiteboards, clickers, etc. We have also the ability to check grades, transcripts, etc. online – and have online books with student account access from home to continue working on homework. This technology has really made it much easier for our school to teach anyone at any time in any place!" – High school student

- Bring together faculty and IT to discuss must-have resources:
  - Use that discussion to create or augment your district technology plan

    "I think of project-based learning with access to laptops/desktops and wireless Internet access. Online classrooms using wikis, blogs, etc., that help extend the classroom beyond the eight-hour school day are a must in my opinion for a 21st-century classroom." – District IT professional

- Leverage 21st-century tools to achieve educational goals:
  - Focus on professional development to ensure faculty understand and use technology

    "I am fortunate to have the things I need to teach in a 21st-century classroom. It has significantly changed the way I teach: we rarely use printed material except for books; I am available electronically 24 hours a day via Blackboard and e-mail; students can interact with other students beyond those in their individual classes." – High school teacher

Methodology

- CDW-G hired O'Keeffe & Company to conduct an online survey of high school students, high school faculty and district IT professionals in May 2010
- Sample Size and Margin of Error:
  - 1,004 Full Sample: +/- 3.0% margin of error at a 95% confidence level
  - 400 Students: +/- 4.9% margin of error at a 95% confidence level
  - 302 Faculty: +/- 5.6% margin of error at a 95% confidence level
  - 302 IT Professionals: +/- 5.6% margin of error at 95% confidence level

Student Grade Levels	
Freshman	20%
Sophomore	28%
Junior	27%
Senior	25%

Faculty/IT District Locations	
Urban	28%
Suburban	51%
Rural	21%

Faculty/IT District Sizes	
Less than 600 students	13%
600-2,499 students	33%
2,500-9,999 students	26%
10,000 students +	28%

Thank you.

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